

**REMARKS**

Applicants appreciate the Examiner's thorough consideration provided the present application. Claims 1-24 are present in the application. Claims 1, 8, 21 and 22 are independent. By this Amendment, claims 1, 8, 21 and 22 are amended. No new matter is involved.

Reconsideration of this application is respectfully requested.

**Claim Rejections Under 35 U.S.C. § 103**

Claims 1, 5-8, 12-14 and 19-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0010573 to Wakita et al. ("Wakita") in view of U.S. patent Application Publication No. 2005/0171757 to Appleby ("Appleby") and further in view of U.S. Patent No. 6,604,101 to Chan ("Chan"). Claims 2 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wakita in view of Appleby and Chan and further in view of U.S. Patent No. 5,321,607 to Fukumochi ("Fukumochi"). Claims 4 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wakita in view of Appleby and Chan and further in view of Tolin et al. ("Tolin"), U.S. Patent No. 5,490,061. Claims 3, 10 and 15-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wakita in view of Appleby, Chan, Fukumochi and U.S. Patent No. 5,608,623 to Sata et al. ("Sata"). These rejections are respectfully traversed.

Because the rejection is based on 35 U.S.C. § 103, what is in issue in such a rejection is "the invention as a whole," not just a few features of the claimed invention. Under 35 U.S.C. § 103, "[a] patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter *as a whole* would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." The determination under § 103 is whether the claimed invention *as a whole* would have been obvious to a person of ordinary skill in the art at the time the invention was made. *See In re O'Farrell*, 853 F.2d 894, 902, 7 USPQ2d 1673, 1680 (Fed. Cir. 1988). In determining obviousness, the invention must be considered as a whole and the claims must be considered in their entirety. *See Medtronic, Inc. v. Cardiac Pacemakers, Inc.*, 721 F.2d 1563, 1567, 220 USPQ 97, 101 (Fed. Cir. 1983).

In rejecting claims under 35 U.S.C. § 103, it is incumbent on the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In doing so, the Examiner is expected to make the factual determinations set forth in *Graham v John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one of ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. *See Uniroyal Inc. v. F-Wiley Corp.*, 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988), *cert. denied*, 488 U.S. 825 (1988); *Ashland Oil, Inc. v Delta Resins & Refractories, Inc.*, 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), *cert. denied*, 475 U.S. 1017 (1986); *ACS Hospital Systems, Inc. v Montefiore Hospital*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the Examiner are an essential part of complying with the burden of presenting a *prima facie* case of obviousness. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. *See In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992). To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be suggested or taught by the prior art. *See In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1970). All words in a claim must be considered in judging the patentability of that claim against the prior art. *See In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

A suggestion, teaching, or motivation to combine the prior art references is an "essential evidentiary component of an obviousness holding." *See C.R. Bard, Inc. v. M3 Sys. Inc.*, 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998). This showing must be clear and particular, and broad conclusory statements about the teaching of multiple references, standing alone, are not "evidence." *See In re Dembiczak*, 175 F.3d 994 at 1000, 50 USPQ2d 1614 at 1617 (Fed. Cir. 1999).

Moreover, it is well settled that the Office must provide objective evidence of the basis used in a prior art rejection. A factual inquiry whether to modify a reference must be based on objective evidence of record, not merely conclusory statements of the Examiner. *See In re Lee*, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002).

Furthermore, during patent examination, the PTO bears the initial burden of presenting a *prima facie* case of unpatentability. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785788 (Fed. Cir. 1984). If the PTO fails to meet this burden, then the Applicants are entitled to the patent. Only when a *prima facie* case is made, the burden shifts to the Applicants to come forward to rebut such a case.

Independent claim 1, as amended, recites a combination of features including an input step in which the one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language, the one or more keywords being a segment of the full text sentence in the source language; a sentence pair extraction step in which a sentence pair extraction means extracts one or more sentence pairs each including more than one of the keywords from a parallel corpus database including partial correspondence information indicating correspondence between a word/phrase in the source language and a word/phrase in the target language in each sentence pair; a keyword-related phrase storage step in which a target-language keyword-related phrase corresponding to each source-language keyword-related phrase is detected from the partial correspondence information of each sentence pair and stored as a pair of keyword-related phrases in the source language and in the target language in the form of a keyword-related phrase table in a storage means; a text sentence candidate generation step in which a text candidate generation means performs dependency relationships of each keyword-related phrase in the source language and in the target language of the pair of keyword-related phrases assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table and generates one or more target-language text sentence candidates by using a target language keyword-related phrase generation model and a language model by assuming dependency relationships of two or more

pairs of keyword-related phrases; and an output step in which at least one text sentence candidate is output from an output means corresponding to the full text sentence in the source language.

Independent claim 8 recites a combination of features including input apparatus for inputting the one or more keywords in the source language without inputting a full text sentence in the source language, the one or more keywords being a segment of the full text sentence in the source language; a parallel corpus database including partial correspondence information indicating correspondence between a word/phrase in the source language and a word/phrase in the target language in each sentence pair; a sentence pair extraction means for extracting one or more sentence pairs each including more than one of the keywords from the parallel corpus database; a keyword-related phrase storage means for detecting a target-language keyword-related phrase corresponding to each source-language keyword-related phrase from the partial correspondence information of each sentence pair and storing the detected target-language keyword-related phrase in the form of a keyword-related phrase table; a text candidate generation means that performs dependency relationships of each keyword-related phrase in the source language and in the target language of the pair of keyword-related phrases described in the keyword-related phrase table and generates one or more target-language sentence candidates by using a target language keyword-related phrase generation model and a language model by assuming dependency relationships of two or more pairs of keyword-related phrases; and an output means for outputting at least one text sentence candidate corresponding to the full text sentence in the source language.

Independent claim 21 recites a combination of features, including an input step in which the one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language, the one or more keywords being a segment of the full text sentence in the source language; a sentence pair extraction step in which a sentence pair extraction means extracts one or more sentence pairs each including more than one of the keywords from a parallel corpus database including partial correspondence information indicating correspondence between a word/phrase in the source language and a word/phrase in the target language in each sentence pair; a keyword-related phrase storage step in which a target-language keyword-related phrase corresponding to each source-language keyword-related

phrase is detected from the partial correspondence information of each sentence pair and stored in the form of a keyword-related phrase table in a storage means, wherein the target-language keyword-related phrase is a content word; a word sequence generation rule acquisition step in which a word sequence generation rule acquisition unit searches for a pair of sentences including the content word from a parallel corpus and performs morphological analysis and syntactic analysis, extracts word sequences including the content word from the pair of sentences, and acquires and stores a word sequence generation rule indication how to generate the keyword-related phrase; and a word generation candidate generation step in which a word sequence candidate generator generates word sequence candidates of the target language included in a text sentence candidate in accordance with the word sequence generation rules; a text sentence candidate generation step in which a text candidate generation means performs dependency relationships of each keyword related phrase in the source language and in the target language of the pair of keyword-related phrases described in the keyword-related phrase table and/or the word sequence candidates in the source language and in the target language, and generates one or more target language text sentence candidates by using a target language keyword-related phrase generation model and a language model by assuming dependency relationships of two or more pairs of keyword-related phrases; and an output step in which at least one text sentence candidate is output from an output means corresponding to the full text sentence in the source language.

Independent claim 22 recites a combination of features, including input apparatus for inputting the one or more keywords in the source language without inputting a full text sentence in the source language, the one or more keywords being a segment of the full text sentence in the source language; a parallel corpus database including partial correspondence information indicating correspondence between a word/phrase in the source language and a word/phrase in the target language in each sentence pair; a sentence pair extraction means for extracting one or more sentence pairs each including more than one of the keywords from the parallel corpus database; a keyword-related phrase storage means for detecting a target-language keyword-related phrase corresponding to each source-language keyword-related phrase from the partial correspondence information of each sentence pair and storing the detected target-language keyword-related phrase in the form of a keyword-related phrase table; a word sequence

generation rule acquisition unit for acquiring a word sequence generation rule indicating how to generate the keyword-related phrase from a word sequence by searching for a pair of sentences including the content word from a parallel corpus, performing morphological analysis and syntactic analysis, extracting a word sequence including the content word from the pair of sentences, a word sequence candidate generator for generating word sequence candidates in the target language included in a text sentence candidate in accordance with the word sequence generation rules; a text candidate generation means that performs dependency relationships of each keyword related phrase in the source language and in the target language described in the keyword-related phrase table and/or the word sequence candidates in the source language and in the target language of the pair of keyword-related phrases, and that generates one or more target language text sentence candidates by using a target language keyword-related phrase generation model and a language model by assuming dependency relationships of two or more pairs of keyword-related phrases; and an output means for outputting at least one text sentence candidate corresponding to the full text sentence in the source language.

Applicants respectfully submit that Wakita differs substantially from the claimed invention in a number of ways.

Firstly, Wakita inputs entire sentences. In this regard, reference is made to paragraph [0108] of Wakita, which states that voice recognizing means 4 recognizes the voice input as an original languages sentence. This differs fundamentally from Applicants' claimed invention, which positively recites "an input step in which the one or more keywords in the source language are input via an input means without inputting a full sentence in the source language . . ."

Secondly, Wakita does not appear to disclose a keyword-related storage step, as claimed. The Office Action asserts that this step is disclosed in paragraphs [1026-8] – which appears to be a typo and to mean paragraphs [0126-8]. Applicants respectfully disagree with this assertion, because Wakita does not disclose storing in the form of a keyword related phrase table, a target-language keyword-related phrase corresponding to each source-language keyword-related detected phrase. Instead, it appears that Wakita outputs a target language expression pattern - see paragraph [0129]. The Office Action admits that this claimed feature is not found in Wakita.

Thirdly, Wakita's text sentence candidate generation feature does not involve the claimed keyword-related phrases in the target language in the admittedly lacking keyword-related phrase table.

In an attempt to remedy some of the aforementioned deficiencies of Wakita, the Office Action turns to Appleby. However, in Appleby, the *full text sentence* in the source language to be translated *has to be selected/inputted* at the outset in order for Appleby's translation machine to translate, not just a *segment* of the full text sentence in the source language. In particular, in Appleby's system, it is essential to input a first sentence of the source document, and to map words of a first sentence of the source document and the corresponding sentence of the translation document in a translation step (see FIGs. 3-4 and paragraphs [0039]-[0046]). The user then draws dependency relationship lines between the boxes containing the words (see FIG. 6 and paragraphs [0048]-[0052]). However, Appleby nowhere discloses simply inputting a *segment* (i.e., the one or more keywords) of the full text sentence in the source language *without inputting a full text sentence in the source language*. Therefore, Appleby fails to teach "an input step in which the one or more keywords in the source language are input via an input means *without inputting a full text sentence in the source language*, the one or more keywords being a *segment* of the full text sentence in the source language" as recited in claim 1 and "input apparatus for inputting the one or more keywords in the source language *without inputting a full text sentence in the source language*, the one or more keywords being a *segment* of the full text sentence in the source language" as recited in Applicants independent claims. Unlike Appleby, the present invention simply extracts a *sentence including more than one of the keywords* from a parallel corpus database, which is much simpler and more efficient than Appleby's word-for-word match.

Even if one of ordinary skill in the art were (solely for the sake of argument) properly motivated to turn to Appleby to modify Wakita, the so-modified version of Wakita would not disclose, suggest, or otherwise render obvious the claimed invention.

The Examiner argued during a previous interview that Appleby has to store "key words and expression patterns," disclosed in paragraph [0115] somewhere, and that Appleby has to

store phrases shown in Fig. 19c somewhere in its computer, and that an obvious place to store this information is in a table or database.

Even assuming (solely for sake of argument) that this is true, neither Wakita nor Appleby discloses or suggests the claimed text sentence candidate generation step in which a text candidate generation means assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table and generates one or more target-language text sentence candidates.

Chan is applied to disclose an input step in which one or more keywords in the source language are input without inputting a full text sentence, and concludes that it would be obvious to modify Wakita to not input a whole sentence.

Applicants respectfully disagree with this conclusion for a number of reasons.

Firstly, Chan never explicitly (or inherently, i.e., necessarily) states that its query is a single word. Rather, Chan just identifies a keyword from the query, and standardizes the identified keyword to a commonly known word and/or term.

Secondly, the Office Action fails to establish by objective factual evidence that one of ordinary skill in the art would be properly motivated to just input a single keyword into Wakita when Wakita is designed to convert expressions of input sentences (paragraph [0103] of Wakita, not just single keywords. No convincing explanation of why just inputting a single keyword and not entire sentences will help assist in converting expressions in those sentences is presented. In fact, Applicants respectfully submit that just substituting single keywords for Wakita's complete sentence input is counterintuitive and would result in an inoperative device.

Moreover, the proposed modification of Wakita and Appleby would frustrate a fundamental goal of those references, which is to input a complete sentence that presents words with their specific meaningful relationships in those sentences. Chan substitutes more commonly known terms for less commonly known terms and only translates the substituted terms. The Office Action fails to explain how translating different terms can maintain the specific meaningful relationships sought by Appleby and Wakita, especially where the substituted terms are plucked out of the context of the entire sentence, and those meaningful relationships may differ even more if they are changed to more common words, which may have different



contextual meanings. Thus, the proposed modification of Wakita and Appleby will more probably hinder a correct translation than help improve a translation.

Any assertion that the proposed modified version of Wakita will have enhanced capabilities fails to answer the question of why using less than an entire sentence to input would not detract from the contextual meaning of those words in a complete sentence.

Thirdly, Chan is directed to providing search queries that will be recognized by conventional search engines whereas Appleby and Wakita are not concerned with providing search queries that will be recognized by conventional search engines. Instead, Appleby and Wakita are concerned with accurate translations of complete sentences in one language into complete sentences in another language. Because of this, both Wakita and Appleby disclose inputting complete sentences. Neither Wakita nor Appleby are designed to generate complete sentences from constituent words or word phrases and inputting just individual words will clearly input them without any context whatsoever, thereby teaching away from a fundamental goal of Appleby and Wakita to obtain accurately translations of complete sentences.

Moreover, the alleged motivation to input less than complete sentences into Wakita and Appleby, i.e., that it would be helpful "in order to dialectically standardize the keyword or query inquiry input by the user to a more commonly known or used term, which would be distinctly helpful because standardizing the word to a commonly known word insures that the target language search engine will recognize it," as noted by Chan (col. 4, lines 22-29), actually teaches away from a primary purpose of Wakita and Appleby, i.e., accurate sentence translations, and not with generating terms that are commonly known for searching databases to increase search recall.

Further, in this regard, Chan distinguishes his system from other known systems such as machine translation services and source-to-target language translation services (see col. 2, line 66 to col. 3, line 23), thereby highlighting the fact that its differences teach away from using source-to-target translation schemes.

A previous Office (Advisory) Action stated that entering less than a complete sentence would not necessarily do away with the primary mode of operation of both Wakita and Appleby. Applicants completely disagree with this conclusion because, clearly, both Wakita and Appleby

input complete sentences to get accurate translations of complete sentences, not to get dialectically standardized translations. There is no other type of input disclosed in either Wakita or Appleby than complete sentence input. Logically, inputting less than a complete sentence eliminates the only disclosed type of useful input in both of these references.

Additionally, Applicants respectfully submit that if one of ordinary skill in the art were to apply dialectical standardization to Wakita and Appleby, it would only be applied after complete input sentences were translated into accurate complete sentences and then perhaps only of those sentences were to be used to search conventional databases, and then only for search purposes, and not for accuracy of translation purposes.

For at least the aforementioned reasons, Applicants respectfully submit that one of ordinary skill in the art would clearly not be properly motivated to modify Appleby and Wakita in view of Chan, as suggested.

Another way of stating this is that both Wakita and Appleby teach away from inputting less than a complete sentence and the Office Action has not satisfactorily explained why one of ordinary skill in the art would be properly motivated to input less than a complete sentence. For example, no evidentiary showing is made that inputting less than a complete sentence would improve the performance of Wakita alone, or as proposed to be modified by Appleby. It is to be remembered, that the burden is on the Office to show a *prima facie* basis that one of ordinary skill in the art would be properly motivated to modify Wakita-Appleby as suggested.

Moreover, a user of Chan initially inputs what is characterized by Chan as a "query." Presumably, a query is in the form of a complete sentence. So, Chan, like Wakita and Appleby, enter complete sentences.

Chan then identifies words in the query that have dialectical variations, and performs dialectical standardization on that word before translating that word. Chan does dialectical variation analysis after the query itself is inputted.

Thus, the reliance in the rejection on Chan is misplaced.

Furthermore, as amended, the independent claims recite that a target-language keyword-related phrase is stored as a pair of keyword-related phrases in the source language and in the target language. Applicants respectfully submit that this feature is not found in the applied art.

In this regard, to the extent that the Office Action relies upon Fig. 19a of Appleby, it is without merit because the Office Action clearly admits that there is no explicit disclosure of this feature (by stating that Appleby only "implies" disclosure of such a feature, and by providing no factual evidence that Appleby's Fig. 19 discloses this feature not just possibly and not just probably but necessarily), which is the case law established standard for establishing an inherent disclosure. Inherency may not be established by probabilities or possibilities. What is *inherent*, must necessarily be disclosed. *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981) and *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993).

In response to this previously presented argument, the outstanding Office Action contends that Appleby's disclosure in Fig. 19a showing bilingual phrases mapped together, an [0042-43] describe a translation program with a "translation data store 232" which stores the relationships established by mapping program 222, and that this disclosure is an explicit disclosure that "a target-language keyword-related phrase is stored as a pair of keyword-related phrases in the source language and in the target language."

Applicants respectfully disagree with this conclusion for a number of reasons.

Firstly, Fig. 19a is explicitly described as one of six example texts of French-English translation pairs. It is just disclosed as an example, and most definitely is NOT disclosed as storage of a pair of keyword-related phrases in the source language and in the target language.

Secondly, paragraph [0104] of Appleby's published application clearly states that a translation unit record "consists of a pair of head words in the source and target languages, together with, for each, a list of right surface daughters and a list of left surface daughters, and a list of the dependency graph daughters. These lists may be empty. The fields representing the daughters may contain either a literal word ("like" for example) or a placeholder for another translation unit. A record of the translation unit which originally occupied the placeholder ("I" for example) is also retained at this stage. Also provided are a list of the gap stack operations performed for the source and target heads, and the surface daughters." Note that the word "phrase" is not even found in paragraph [0104].

The Office Action even admits that Wakita does not disclose that a target-language keyword-related phrase is stored as a pair of keyword-related phrases in the source language and

in the target language (see page 7 of the outstanding Office Action), relying, instead on Appleby to provide such a feature. However, as discussed above, the Office Action does not establish that Appleby necessarily contains such a disclosure.

Additionally, as amended, claims 1 and 8 recite that one or more target-language text sentence candidates are generated by using a target language keyword-related phrase generation model and a language model by assuming dependency relationships of two or more pairs of keyword related phrases. Applicants respectfully submit that this feature is not found in the applied art.

In this regard, Appleby, merely compares a surface tree structure of a language component using a parser, determined a dependency graph, determines a target surface tree to generate surface text, and stores the target language text (paragraph [0167] of Appleby). Appleby subsequently determines, in paragraph [0169], a matching surface and dependency structure for each translation unit in an assembled dependency structure. Then corresponding target head nodes are retrieved to construct the corresponding dependency structure and the transfer between source and target languages takes place at the level of the dependency structure. After that, as disclosed in paragraph [0171] of Appleby, the root of the entire target structure is determined by traversing the structure along the links and finally, the target text is recursively generated by traversing the target surface structure from the target surface root component.

Throughout this entire disclosure, Appleby never once states that one or more target-language text sentence candidates are generated by using a target language keyword-related phrase generation model and a language model by assuming dependency relationships of two or more pairs of keyword related phrases, and the Office Action never provides an explanation of how paragraphs [0167]-[0171] constitutes a disclosure of one or more target-language text sentence candidates being generated by using a target language keyword-related phrase generation model and a language model by assuming dependency relationships of two or more pairs of keyword related phrases, as claimed, leaving this to speculation. However, it is well settled that a rejection under 35 U.S.C. § 103 cannot properly be based on speculation but must be based on objective factual evidence of record. See, *In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), *cert. denied*, 389 U.S. 1057 (1968). See, also, *In re GPAC Inc.*,

35 USPQ2d 1116 at 1123 (Fed. Cir. 1995) and *Ex parte Haymond*, 41 USPQ2d 1217 at 1220 (Bd. Pat. App. & Int. 1996).

In fact, it appears to Applicants that, in paragraph [0169], Appleby admits that the "transfer between the source and target languages takes place at the level of the dependency structure, and is therefore relatively unaffected by the vagaries of word placement in source and/or target languages." (emphasis added).

This is to be contrasted with Applicants' claimed invention which uses a target language keyword-related phrase generation model and a language model by assuming dependency relationships of two or more pairs of keyword related phrases uses language, which definitely does take into account word placement in source and/or target language.

In response to these previously presented arguments, the outstanding Office Action states that in the phrases "the white cat" and "the cat is white", assuming a dependency relationship between the words "white" and "cat" does not necessarily require taking into account word placement.

Applicants respectfully submit that this argument actually supports Applicants' contention and undercuts the Examiner's position and reflects a misunderstanding of Applicants' aforementioned argument. Applicants' aforementioned argument does NOT state that assuming a dependency relationship of two or more keyword related phrases necessarily means taking into account word placement in the source and/or target language.

Instead, Applicants argument is directed to what is claimed, and what is claimed actually is: a text sentence candidate generation step in which a text candidate generation means performs dependency relationships of each keyword-related phrase in the source language and in the target language of the pair of keyword-related phrases assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table and generates one or more target-language text sentence candidates by using a target language keyword-related phrase generation model and a language model by assuming dependency relationships of two or more pairs of keyword-related phrases.

In other words, in the claimed invention, Applicants' language models actually assume a dependency relationship of two or more pairs of keyword phrases, a feature completely not-disclosed by Appleby.

In this regard, reference is made to Applicants' Fig. 7 and the portion of the specification which explains Fig. 7, which discloses the following:

If Japanese keywords, for example, “(kanojo)”, “(kouen)”, and “(iku)” are input to a text generation apparatus (30) via an input unit (40), a translation pair extractor (50) extracts one or more sentence pairs including at least one of the input keywords from the database. In this specific example, “(Kouen he itta)/I went to the park”, “(kanojo to hyakkatten he itta)/I went to the department store with her” are extracted as sentence pairs.

A keyword-related phrase storage unit (60) extracts word/phrase pairs associated with any keyword from the sentence pairs, based on partial correspondence information and stores the extracted word/phrase pairs. In this specific example, “(kouen e)/to the park”, “(itta)/I went”, and “(kanojo to)/with her” are extracted and stored.

A text generator (70) generates an English text sentence “I went to the park with her” based on the extracted word/phrase pairs. The resultant English text sentence (32) is output from output unit (80).

Thus, the Examiner's reliance on Appleby is misplaced and is based on a misunderstanding of what is actually claimed. Accordingly, the rejection is improper.

Further, in this regard, transfer takes place not at a dependency level, in Wakita, and the result of the translation is significantly affected by word order.

Moreover, as noted above, the Office Action admits that Wakita does not disclose this positively recited feature, either. In fact, Wakita just selects a sentence example as the most similar to that of the input sentence from sentence examples in DB3, as disclosed in Wakita, paragraph [0129], and does not generate any new sentence using pairs of keyword-related phrases in the source language, as claimed.

Applicants respectfully submit that a fair, balanced evaluation of the applied art reveals that Wakita and Appleby contain the same shortcomings with respect to the “one or more target-language text sentence candidates are generated by using a target language keyword-related phrase generation model and a language model by assuming dependency relationships of two or more pairs of keyword related phrases” feature of the claimed invention, so that no combination

of these two references can possibly render obvious the claimed invention, and that one of ordinary skill in the art would have no proper incentive to modify the Wakita-Appleby reference combination to input less than complete sentences to obtain accurate translations of those input sentences, as suggested.

Furthermore, with respect to claims 19 and 20, Applicants respectfully submit that, although Appleby discloses obtaining scores for pairs of source and target analyses (paragraphs [0247]-[0254]), Appleby merely selects the highest scoring pair and the selection is an *ad hoc* process, where the selection is not made until after the pairs are scored. This means that Appleby does not select a score greater than a predetermined threshold, as recited in claim 19. Nor does Appleby select as many text sentence candidates with highest scores as a predetermined number N.

Applicants respectfully submit that the applied art, including Wakita and Appleby, do not disclose or suggest a text candidate generation means which determines dependency relationships of each keyword-related phrase in a source language and in the target language described in a keyword-related phrase table, or generates one or more target-language text sentence candidates by assuming dependency relationships among the keyword-related phrases in the text sentence generation feature of the present invention, as claimed.

Additionally, all independent claims are amended to recite a combination of features, including a feature that is neither disclosed nor suggested by any of the applied art, i.e., that potential translations are made by considering the dependence of one or more phrases when more than one keywords are input.

Further, with respect to claim 7, none of the applied art discloses or suggests the evaluation feature that involves the candidate score features.

Accordingly, the Office Action fails to make out a *prima facie* case of obviousness of the claimed invention recited in claims 1, 5-8, 12-14 and 19-22.

With respect to the rejection of claims 2 and 9, Fukumochi is not applied to remedy the aforementioned deficiencies of the Wakita-Appleby reference combination.

With respect to the rejection of claims 4 and 11, Tolin is not applied to remedy the aforementioned deficiencies of the Wakita-Appleby reference combination.

With respect to the rejection of 3, 10, 15 and 18, Sata is not applied to remedy the aforementioned deficiencies of the Wakita-Appleby-Tolin reference combination.

Additionally, because the claimed inventive apparatus and method generate sentences by matching phrases stored in the apparatus without needing to store complete sentences therein, the number of potential sentences is reduced and sentences are generated in a shorter time than in the prior art.

Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103 are respectfully requested.

Claims 23 and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wakita in view of Appleby and further in view of U.S. Patent No. 6,604,101 to Chan et al. ("Chan") and further in view of U.S. Patent 6,985,851 to Weise et al. ("Weise"). This rejection is respectfully traversed.

Initially, Applicants note that claims 23 and 24 depend respectively from claims 1 and 8 are added. Applicants respectfully submit that these claims patentably define over the applied art because of the respective dependency from independent claims 1 and 8, for reasons discussed, above. In this regard, Applicants note that the secondary reference to Weise is not applied to remedy the aforementioned shortcomings of the Wakita-Appleby-Chan reference combination regarding the subject matter of claims 1 and 8.

So, even if, solely for sake of argument, one of ordinary skill in the art were properly motivated to modify the Wakita-Appleby-Chan reference combination in view of Weise, the so-modified version of Wakita-Appleby-Chan would still not disclose, suggest, or otherwise render obvious the claimed invention.

Accordingly, reconsideration and withdrawal of this rejection of claims 23 and 24 are respectfully requested.



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**CONCLUSION**

It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

In the event there are any matters remaining in this application, the Examiner is invited to contact Robert J. Webster, Registration No. 46,472 at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated: April 7, 2011

Respectfully submitted,

By 

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